


**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 00087	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA416)	
International application No. PCT/EP 02/07233	International filing date ( <i>day/month/year</i> ) 01.07.2002	Priority date ( <i>day/month/year</i> ) 01.07.2002
International Patent Classification (IPC) or both national classification and IPC G01C5/06		
Applicant NOKIA CORPORATION et al.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of    sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I    <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II    <input type="checkbox"/> Priority</p> <p>III    <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV    <input type="checkbox"/> Lack of unity of invention</p> <p>V    <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI    <input type="checkbox"/> Certain documents cited</p> <p>VII    <input type="checkbox"/> Certain defects in the international application</p> <p>VIII    <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand  05.12.2003	Date of completion of this report  09.08.2004	
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Hoekstra, F  Telephone No. +31 70 340-3638	



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/EP 02/07233**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-21 as originally filed

**Claims, Numbers**

1-31 as originally filed

**Drawings, Sheets**

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	5-12, 14, 15, 18-23, 26-31
	No: Claims	1-4, 13, 16, 17, 24, 25
Inventive step (IS)	Yes: Claims	6, 9-11, 15, 18-23, 26-31
	No: Claims	1-5, 7, 8, 12-14, 16, 17, 24, 25
Industrial applicability (IA)	Yes: Claims	1-31
	No: Claims	

2. Citations and explanations

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 02/07233

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: EP-A-1 136 788 (ASULAB SA) 26 September 2001 (2001-09-26)
- D2: WO 01 13069 A (COLLIER W CLAYTON ;KIVERA INC (US); SHENSON BRIAN W (US); SYNGHAL) 22 February 2001 (2001-02-22)
- D3: WO 02 03093 A (NOKIA CORP) 10 January 2002 (2002-01-10)
- D4: PATENT ABSTRACTS OF JAPAN vol. 017, no. 107 (P-1496), 4 March 1993 (1993-03-04) & JP 04 296690 A (SEIKO EPSON CORP), 21 October 1992 (1992-10-21)

- 1 The present application does not meet the requirements of Article 33(1) PCT, because the subject-matter of **claims 1-4, 13, 16, 17, 24 and 25** is not novel in the sense of Article 33(2) PCT. The present application furthermore does not meet the requirements of Article 33(1) PCT, because the subject-matter of **claims 5, 7, 8, 12 and 14** does not involve an inventive step in the sense of Article 33(3) PCT. The reasons for this are the following:

**Novelty:**

- 2.1 Document D1 discloses a portable device, which could be incorporated in a mobile telephone (see D1, col. 5, par. [0028]), comprising a pressure sensing altimeter (par.[0029], the altimeter 15), consisting of a pressure sensor and processing means for determining the altitude of the device or mobile terminal, (par. see par. [0029], the processing unit 14), means for determining the horizontal position at the location of the mobile terminal (par. [0029], the GPS receiver 12), and means for determining the ground level at said position using said determined horizontal position. (See par. [0038], if the horizontal position data (X,Y) of the GPS receiver match reference points of a geographic map stored in a memory, then the corresponding altitude Z at that position (X,Y) is retrieved from the memory and used to calibrate the altimeter.) Thus, all the features of independent **claim 1** are disclosed by D1 and therefore, the requirements of Article 33(1) PCT have not been met.

Note that in D1, par. [0037], use of the device is described in the context of "randonnée", i.e. hiking, trekking, walking, but in any case activities where the user remains close to the ground, so that the map-derived ground altitude is, for all practical purposes, the altitude of the device itself.

- 2.2 The means for calibrating the processing means of dependent **claim 2** are also disclosed by D1, as already mentioned in point 2.1 above, as is the stored data of **claim 3**. The fact that the data are stored in the mobile terminal, as in **claim 4**, is disclosed by D1, par. [0029] and fig. 2, see the memory 13 in the portable device 10. The GPS receiver of D1 receives signals from orbital satellites, as in **claim 13**. Thus, the subject-matter of these claims also does not meet the requirements of Article 33(1) PCT.
- 2.3 The method of independent **claim 16** corresponds in all particulars to the device of claim 1. Therefore, the method of this claim is also anticipated by D1. The method of **claim 17** corresponds to the device of claim 3, and is anticipated by D1.
- 2.4 The method of claim 24 appears to correspond in essence to what is described on page 21, ll. 6-18 of the description, although it is not clear, from the wording of the claim alone, that the mobile terminal is supposed to be close to ground level, or that the altitude above ground level is supposed to be known, nor even that in this method, there is no pressure altimeter. In particular, although the claim explicitly concerns a method of determining the altitude of a mobile communication terminal, the method steps in fact only disclose a method for determining ground level. This ground level, however, is determined in D1 as an intermediate step before calibrating the altimeter, see D1, par. [0038], and the remarks under point 2.1 above. Therefore, D1 also discloses the subject-matter of independent **claim 24**.
- 2.5 The subject-matter of **claim 25** is also disclosed by D1 in par. [0038].
- 2.6 The subject-matter of claims **5-12, 14, 15, 18-23, and 26-31** is not disclosed in the prior art and therefore, the subject-matter of these claims is novel.

**Inventive step:**

- 3.1 Since the subject-matter of claims **1-4, 13, 16, 17, 24 and 25** is not new, these

claims are also not inventive. Furthermore, the subject-matter of **claim 5** differs from the disclosure of D1 in that the data correlating the horizontal position to a ground level, in other words a geographic terrain data map, is not stored in the mobile terminal, but at a service provider. The problem which this feature seeks to solve, over the prior art of D1, is the cost or volume of the memory modules needed for storing the map in the mobile device. For solving this problem, the person skilled in the art would consult systems for mobile telephony. The use of centrally located geo-referenced data for providing services to mobile telephone subscribers is known from the mobile telephone system of D2, see abstract, which the person skilled in the art would combine with the disclosure of D1, to arrive at the subject-matter of claim 5, without exercising any inventive activity.

- 3.2 The subject-matter of **claims 7, 8 and 12** differs from D1 in the manner of determining the horizontal position of the location of the mobile terminal. Whereas in D1 this is done using GPS, claims 7 and 8 specify details of manual data entry by the user, and claim 12 uses cellular network positioning. The problem to be solved here is that in D1, the GPS signal may be unobtainable or inaccurate because of shading effects, urban canyon, etc. This problem is well-known in the field of portable communication terminals, however. The person seeking to solve this problem would consult D3, which is explicit about this problem of the reliability of the GPS, and offers the same solutions as claims 7, 8 and 12, namely direct longitude and latitude input, see D3, p. 11, l. 8, street address input, see D3, p. 11, l. 7, and cellular network positioning (E-OTD), see p. 11, l. 6. Therefore, the subject-matter of these claims does not involve inventive activity.
- 3.3 The subject-matter of **claim 14** differs from D1 in the storing of the altitude levels and the display of these altitudes as a graphical histogram. Although D1 comprises a display 16 for displaying horizontal and vertical positions, see par. [0029] and fig. 2, this may not be sufficient information for e.g. a mountaineer. The person seeking to provide the information in a more pertinent manner would consult the field of altitude sensors for climbing or mountaineering. D4 discloses a system in this field, and describes displaying altitude data as a graph of altitude over time. The person skilled in the art would apply the display of D4 to the system of D1 to arrive at the mobile terminal of claim 14, without exercising inventive activity.
- 3.4 The subject-matter of **claims 6, 9-11, 15, 18-23, 26-31** is neither known from the prior art of D1-D4, nor obvious in the light of a combination of these documents.